

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

EDWARD A. BEALS, METEOROLOGIST.

Vol. XXIV. SAN FRANCISCO, JULY, 1920. No. 7.

GENERAL SUMMARY.

Seasonable weather prevailed in California during July. The only rain of consequence was that which accompanied thunderstorms in the mountains. Fog was of daily occurrence along the coast, and moderately cool weather occurred there. In the interior valleys, however, the days were extremely hot owing to the abundant sunshine received as result of cloudless skies. At Greenland Ranch, in Death Valley, the temperature rose above 100° every day of the month, and culminated with a maximum of 125° on the last day. Because of the long continued drought, rivers maintained extremely low stages, and some of the smaller streams disappeared entirely. On the 23d the Sacramento River at Sacramento reached the lowest stage in more than 70 years of record. The minimum stage reached on that date was 0.7 foot below mean sea level. Violent thunderstorms were of frequent occurrence in the elevated portions of the State. The Forest Service announced that lightning caused 60 forest fires in northern California during the first five days of July. Forest fires were more frequent than in past years, owing to the dry condition of the forests.

The weather was generally favorable for the harvesting of grain and fruit. It was a good month for making hay, and the sun-curing of fruit was also begun under excellent conditions. All irrigated crops made satisfactory progress, but shortage of irrigation water made conservation necessary, particularly in the Sacramento Valley. Corn, oats, rice, hops, and pears made excellent progress. However, because of deficient moisture early in the growing season, the condition of vegetables was not so favorable as in past seasons. Apples and prunes were also below normal in condition. Citrus fruit made normal progress. Nut crops showed satisfactory growth toward maturity. Grapes also made good progress, and early varieties appeared on the market. Though lowland pastures deteriorated, mountain ranges furnished ample feed, and grazing stock maintained good condition. Deficient water supply made necessary the further conservation of water for hydroelectric power. Except for the water shortage, the agricultural situation was generally satisfactory at the close of the month.

A. H. P.

PRESSURE.

The mean sea-level pressure, determined from the records of 12 regular Weather Bureau stations, was 29.96 inches. The highest was 30.26 inches at Eureka on the 4th; the lowest was 29.58 inches at Independence on the 12th; the range for the State was 0.68 inch.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 99 stations, was 71.7°, which is 2.3° below the normal. The highest monthly mean was 100.7°, at Greenland Ranch; and the lowest was 52.9°, at Point Reyes. The highest temperature, 125°, occurred at Greenland Ranch on the 31st; and the lowest, 26°, occurred at Portola on the 12th, 26th, and 28th. The range for the State was 99°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 252 stations, was 0.06 inch, or 0.02 inch above the normal. The greatest monthly amount was 1.42 inches, at Fort Bragg. No rain fell at 153 stations.

The greatest amount in 24 hours was 1.36 inches at Fort Bragg on the 2d.

RELATIVE HUMIDITY, SUNSHINE AND CLOUDINESS.

Stations.	Relative humidity Per cent.			Sunshine.	
	5 a.m.	5 p.m.	Mean.	Actual No. of hours	Per cent of possible.
Eureka.....	93	80	86	225	49
Fresno.....	53	14	34	443	99
Independence.....	35	13	24	408	91
Los Angeles.....	77	53	65	491	89
Mount Tamalpais.....	53	46	49	425	95
Red Bluff.....	69	20	44	424	93
Sacramento.....	82	30	56	412	91
San Diego.....	90	73	81	339	78
San Francisco.....	94	78	86	310	69
San Jose.....	54	44	49	378	85
San Luis Obispo.....	83	54	68	365	83

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month	Ave. hr. velocity.	Maximum velocity.	Direction.	Date	Prev dir.
Eureka.....	4,420	5.9	19	n.	24	n.
Fresno.....	6,856	9.2	25	sw.	2	sw.
Independence.....	4,817	6.5	23	se.	14	s.
Los Angeles.....	3,951	5.3	15	sw.	2	sw.
Mount Tamalpais.....	13,482	18.1	80	n.w.	12	n.w.
Point Reyes.....	21,050	28.3	73	n.w.	15	n.w.
Red Bluff.....	3,876	5.2	22	n.w.	11	se.
Sacramento.....	6,577	8.8	27	s.	3	s.
San Diego.....	4,779	6.4	24	s.	30	n.w.
San Francisco.....	11,252	15.1	40	w.	19	sw.
San Jose.....	4,552	6.1	21	sw.	2	n.w.
San Luis Obispo.....	3,277	4.4	19	ne.	30	n.w.

COMPARATIVE DATA FOR JULY.

Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.
1897....	74.5	0.01	1903....	71.2	0.03	1909....	71.2	0.05	1915....	72.7	0.06
1898....	81.4	T.	1904....	72.2	0.02	1910....	75.5	0.10	1916....	70.3	0.51
1899....	77.9	T.	1905....	74.8	0.01	1911....	74.1	0.10	1917....	75.8	0.08
1900....	75.9	T.	1906....	76.8	0.04	1912....	71.0	0.06	1918....	71.5	0.07
1901....	76.0	0.01	1907....	73.1	0.03	1913....	73.1	0.43	1919....	74.4	0.01
1902....	72.8	0.07	1908....	76.4	0.04	1914....	72.4	0.06	1920....	71.7	0.05

Daily evaporation (inches) and wind movement (miles) for July.

Stations.	Data.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Chula Vista**	Evaporation.....	295	284	247	242	212	182	198	258	253	201	212	251	267	240	250	291	283	257	232	222	220	222	201	213	230	209	238	225	262	245	214	7,856
	Wind movement.....	185	128	127	120	87	93	92	116	129	115	120	102	107	128	120	112	118	105	88	98	128	146	86	91	96	86	100	110	101	154	93	3,484
Dodgeland*	Evaporation.....	442	183	331	081	358	354	354	471	426	438	384	213	312	329	350	253	315	219	481	324	330	372	383	398	403	257	345	229	464	249	279	10,482
	Wind movement.....	90	60	78	39	13	34	23	26	54	39	59	81	61	73	42	40	67	47	51	49	46	40	30	57	22	33	38	31	53	18	20	1,364
Oakdale (near)*	Evaporation.....	298	408	358	363	460	491	518	535	503	430	496	459	460	381	371	387	440	465	468	483	458	468	475	533	475	465	518	463	503	570	606	14,209
	Wind movement.....	85	164	145	106	115	95	55	130	100	180	105	113	150	130	140	165	160	155	135	155	130	115	90	115	125	120	125	120	130	120	140	8,910
Tahoe**	Evaporation.....	160	190	200	280	100	180	190	230	150	170	140	140	250	220	230	280	120	240	240	220	170	210	140	240	290	240	070	220	240	230	240	6,220
	Wind movement.....	81	65	46	62	73	47	70	91	69	54	81	74	102	79	70	49	67	80	62	60	85	78	81	49	67	68	61	82	61	64	72	2,150

* Observations taken at 7 a. m.; ** at 8 a. m. † Included in the next following entry.

Climatological Data for July, 1920.

Table with columns: Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Snowfall), Number of days (Precipitation, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

Daily Temperature for JULY, 1920.

Table with columns for Stations, 1-31, and Mean. Rows list various California locations like Bakersfield, Calexico, Chico, Escondido, Eureka, Fresno, Independence, Los Angeles, Merced, Mount Tamalpais, Oakland, Orland, Oroville, Paso Robles, Point Reyes, Pomona, Porterville, Red Bluff, Redlands, Sacramento, San Bernardino, San Diego, San Francisco, San Jose, San Luis Obispo, Santa Barbara, Santa Rosa, and Stockton.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with columns for Stations, Watersheds, and Precip. inches. Rows list various locations and watersheds such as Abbotts, Aguanga, Angiola, Antelope Valley, Arroyohead Springs, Auberry, Auburn, Avalon, Azusa, Bagdad, Barrett Dam, Beaumont, Bellota, Benson's Ferry, Betteravia, Big Bar, Big Sur, Bishop Creek, Calaveras R. S., Campbell, Campo, Camptonville, Canon Dam, Cascada, Cedarville, Centerville Pwr. H., Chester, China Flat, Churn Creek, Clovis, Coalinga, Colgate, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, De Saba, Dinuba, Dobbins (near), Downieville, Dudley, Dudleys, East Park, Edison, Elmore, Emigrant Gap, Fairmont, Firebaugh, Fordyce Dam, Fort Bragg, Fort Ross, Friant, Georgetown, Glacier Point, Glennville, Goffs, Gray Mountain, Happy Camp, Hayfork, Head Dam, Helen Mine, Hetch Hetchy, Hullville (near), Huntington Lake, Idria, Jenny Lind, Jolon, Julian, Kennedy Mine, Kenfield, Kernville, King City, Knights Landing, La Jolla Ind. Res., Lake Eleanor, Lakeport, Lake Spaulding, Las Plumas, Lathrop, La Verne, Le Grand, Livermore, Llano, Lompoc, Los Alamos, Los Gatos, Lytle Creek, Madeline, Maricopa, Markleville, Melones, Merced Falls, Mesa Grande, Middlewater, Mill Creek-1, Mill Creek-2, Milton (near), Millerton, Mokelumne Hill, Monroeville, Montague, Nellie, Nicolaus, North Bloomfield, North Fork, Oak Grove, Orleans, Ozena, Parkfield, Paso Robles-2, Parkway, Peachland, Piedra, Priest Loma, Point Valley, Quincy, Reedy, Represa, Rio Vista, Ruth, St. John, San Miguel Island, San Pedro, Santa Ana River, Santa Clara, Santa Maria, Santa Monica, Seven Oaks, Shields's Ranch, Shively, Shivers, Sierra, Sonora, Springville (near), Staudish, Stanwood, Sterling, Storey, Tamarack, Teton Rancho, Three Rivers, Towle, Trueta, Truckee, Turlock, Tustin (near), Twin Lakes, Twin Valley, Upper Mattole, Vacaville, Walnut Creek, Warner Springs, Wasco, Wasioja, West Branch, West Point, Wrights, Yorba Linda.

* Data obtained from 3-inch rain gage.